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(12) **United States Patent**
Nakamura

(10) **Patent No.: US 7,554,117 B2**
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(54) **SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREOF**

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See application file for complete search history.

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(57) **ABSTRACT**

An island-like interlayer insulating film is formed selectively in a region where a source interconnection and a gate interconnection intersect. For example, by use of ink jet method, a solution containing an insulating material is dropped on a region where the gate interconnection and the source interconnection intersect or a region where a holding capacitor is formed, that enable to reduce a photolithography process and to reduce the number of masks that are used in a TFT.

18 Claims, 7 Drawing Sheets